WHAT IS CLAIMED IS:

1. A refrigerant cycling device, wherein a compressor, a gas cooler, a throttling means and an evaporator are connected in serial in which a hyper critical pressure is generated at a high pressure side, and the compressor comprises an electric motor element, a first and a second rotary compression elements in a sealed container wherein the first and the second rotary compression elements are driven by the electric motor element, and wherein a refrigerant compressed and discharged by the first rotary compression element is compressed by absorbing into the second rotary compression element, and is discharged to the gas cooler, the refrigerant cycling device comprising:

an intermediate cooling loop for radiating heat of the refrigerant discharged from the first rotary compression element by using the gas cooler;

a first internal heat exchanger, for exchanging heat between the refrigerant coming out of the gas cooler from the second rotary compression element and the refrigerant coming out of the evaporator; and

a second internal heat exchanger, for exchanging heat between the refrigerant coming out of the gas cooler from the intermediate cooling loop and the refrigerant coming out of the first internal heat exchanger from the evaporator.

2. The refrigerant cycling device of claim 1, wherein the refrigerant uses carbon dioxide.

3. The refrigerant cycling device of claim 1, wherein an evaporation temperature of the refrigerant at the evaporator is from +12°C to –10°C.

4. A refrigerant cycling device, wherein a compressor, a gas cooler, a throttling means and an evaporator are connected in serial in which a hyper critical pressure is generated at a high pressure side, and the compressor comprises an electric motor

element, a first and a second rotary compression elements in a sealed container wherein the first and the second rotary compression elements are driven by the electric motor element, and wherein a refrigerant compressed and discharged by the first rotary compression element is compressed by absorbing into the second rotary compression element, and is discharged to the gas cooler, the refrigerant cycling device comprising:

an intermediate cooling loop for radiating heat of the refrigerant discharged from the first rotary compression element by using the gas cooler;

an oil separating means for separating oil from the refrigerant compressed by the second rotary compression element;

an oil return loop for depressurizing the oil separated by the oil separating means and then returning the oil back to the compressor;

a first internal heat exchanger, for exchanging heat between the refrigerant coming out of the gas cooler from the second rotary compression element and the refrigerant coming out of the evaporator;

a second internal heat exchanger for exchanging heat between the oil flowing in the oil return loop and the refrigerant coming out of the first internal heat exchanger form the evaporator; and

an injection loop, for injecting a portion of the refrigerant flowing between the first and the second throttling means into an absorption side of the second rotary compression element of the compressor.

5. The refrigerant cycling device of claim 4, further comprising a gas-liquid separating means disposed between the first throttling means and the second throttling means, wherein the injection loop depressurizes a liquid refrigerant separated by the gas-liquid separating means, and then injects the liquid refrigerant into the absorption

side of the second rotary compression element of the compressor.

6. The refrigerant cycling device of claim 4, wherein after the oil separated by the oil separating means exchanges heat at the second internal heat exchanger with the refrigerant coming out of the first internal heat exchanger from the evaporator, the oil return loop returns the oil back to the sealed container of the compressor.

7. The refrigerant cycling device of claim 4, wherein after the oil separated by the oil separating means exchanges heat at the second internal heat exchanger with the refrigerant coming out of the first internal heat exchanger from the evaporator, the oil return loop returns the oil back to the absorption side of the second rotary compression element of the compressor.

8. The refrigerant cycling device of claim 4, wherein the refrigerant uses a refrigerant selected from any one of carbon dioxide, R23 of HFC refrigerant and nitrous suboxide.

9. The refrigerant cycling device of claim 4, wherein an evaporation temperature of the refrigerant at the evaporator is equal to or less than –50°C.

10. A refrigerant cycling device, wherein a compressor, a gas cooler, a throttling means and an evaporator are connected in serial in which a hyper critical pressure is generated at a high pressure side, and the compressor comprises an electric motor element, a first and a second rotary compression elements in a sealed container wherein the first and the second rotary compression elements are driven by the electric motor element, and wherein a refrigerant compressed and discharged by the first rotary compression element is compressed by absorbing into the second rotary compression element, and is discharged to the gas cooler, the refrigerant cycling device comprising:

an intermediate cooling loop for radiating heat of the refrigerant discharged from

the first rotary compression element by using the gas cooler;

a first internal heat exchanger, for exchanging heat between the refrigerant coming out of the gas cooler from the second rotary compression element and the refrigerant coming out of the evaporator;

an oil separating means for separating oil from the refrigerant compressed by the second rotary compression element;

an oil return loop, for depressurizing the oil separated by the oil separating means and then returning the oil back to the compressor; and

a second internal heat exchanger, for exchanging heat between the oil flowing in the oil return loop and the refrigerant coming out of the first internal heat exchanger form the evaporator.

11. The refrigerant cycling device of claim 10, wherein after the oil separated by the oil separating means exchanges heat at the second internal heat exchanger with the refrigerant coming out of the first internal heat exchanger from the evaporator, the oil return loop returns the oil back to the sealed container of the compressor.

12. The refrigerant cycling device of claim 10, wherein after the oil separated by the oil separating means exchanges heat at the second internal heat exchanger with the refrigerant coming out of the first internal heat exchanger from the evaporator, the oil return loop returns the oil back to the absorption side of the second rotary compression element of the compressor.

13. The refrigerant cycling device of claim 10, wherein the refrigerant uses carbon dioxide.

14. The refrigerant cycling device of claim 10, wherein an evaporation temperature of the refrigerant at the evaporator is from –30°C to –10°C.

15. A refrigerant cycling device, wherein a compressor, a gas cooler, a throttling means and an evaporator are connected in serial in which a hyper critical pressure is generated at a high pressure side, and the compressor comprises an electric motor element, a first and a second rotary compression elements in a sealed container wherein the first and the second rotary compression elements are driven by the electric motor element, and wherein a refrigerant compressed and discharged by the first rotary compression element is compressed by absorbing into the second rotary compression element, and is discharged to the gas cooler, the refrigerant cycling device comprising:

a bypass loop, for supplying the refrigerant discharged from the first compression element to the evaporator without depressurizing the refrigerant; and

a valve means for opening the bypass loop when the evaporator is defrosting,

wherein the valve means also opens the bypass loop when the compressor starts.

16. The refrigerant cycling device of claim 15, wherein the bypass loop is open for a predetermined time from a time point before the compressor starts.

17. The refrigerant cycling device of claim 15, wherein the bypass loop is open for a predetermined time from a time point when the compressor starts.

18. The refrigerant cycling device of claim 15, wherein the bypass loop is open for a predetermined time from a time point after the compressor starts.

19. A refrigerant cycling device, wherein a compressor, a gas cooler, a throttling means and an evaporator are connected in serial, and the compressor comprises a first and a second rotary compression elements, and wherein a refrigerant compressed and discharged by the first rotary compression element is compressed by being absorbed into the second rotary compression element and then is discharged to the gas cooler, the refrigerant cycling device comprising:

a refrigerant pipe for absorbing the refrigerant compressed by the first rotary compression element into the second rotary compression element;

an intermediate cooling loop is connected to the refrigerant pipe in parallel; and

a valve device for controlling the refrigerant discharged by the first rotary compression element to flow to the refrigerant pipe or to the intermediate cooling loop.

20. The refrigerant cycling device of claim 19, further comprising a temperature detecting means arranged at a position capable of detecting a temperature of the refrigerant discharged from the second rotary compression element, wherein when the temperature of the refrigerant discharged from the second rotary compression element, which is detected by the temperature detecting means, increases up to a predetermined value, the valve device makes the refrigerant to flow to the intermediate cooling loop.

21. A compressor, having a first and a second rotary compression element driven by a rotational shaft of a driving electric motor element in a sealed container, the compressor comprising:

cylinders for respectively constructing the first and the second rotary compression elements;

rollers respectively formed in the cylinders, wherein each of the rollers is embedded to an eccentric part of the rotational shaft to rotate eccentrically;

an intermediate partition plate interposing among the rollers and the cylinders to partition the first and the second rotary compression elements;

a supporting member for blocking respective openings of the cylinders and having a bearing of the rotational shaft; and

an oil hole formed in the rotational shaft

wherein a penetration hole for connecting the sealed container and an inner side of

the rollers is formed in the intermediate partition plate, and a connection hole for connecting the penetration hole of the intermediate partition hole and an absorption side of the second rotary compression element is pierced in the cylinders that constructs the second rotary compression element.

22. The compressor of claim 21, wherein the driving element is a motor of a rotational number controllable type, which is started with a low speed.

23. A compressor, having an electric motor element and a rotary compression element driven by the electric motor element in a sealed container, wherein a refrigerant compressed by the rotary compression element is discharged to exterior, the compressor comprising:

an oil accumulator for separating oil discharged from the rotary compression together with the refrigerant and then for accumulating the oil is formed in the rotary compression element; and

a return passage having a throttling function, wherein the oil accumulator is connected to the sealed container through the return passage.

24. A compressor, having an electric motor element and a rotary compression mechanism driven by the electric motor element in a sealed container, wherein the rotary compression mechanism is constructed by a first and a second rotary compression elements, and wherein a refrigerant compressed by the first rotary compression element is discharged to the sealed container and the discharged refrigerant with an intermediate pressure is compressed by the second rotary compression element and then discharged to the exterior, the compressor comprising:

an oil accumulator for separating oil discharged from the second rotary compression together with the refrigerant and then for accumulating the oil is formed in

the rotary compression mechanism; and

a return passage having a throttling function, wherein the oil accumulator is connected to the sealed container through the return passage.

25. The compressor of claim 24, further comprising:

a second cylinder constructing the second rotary compression element;

a first cylinder arranged under the second cylinder through a intermediate partition plate and constructing the first rotary compression element;

a first supporting member for blocking a lower part of the first cylinder;

a second supporting member for blocking an upper part of the second cylinder; and

an absorption passage formed in the first rotary compression element,

wherein the oil accumulator is formed in the first cylinder other than a portion where the absorption passage is formed.

26. The compressor of claim 25, wherein the oil accumulator is formed by a penetration hole that vertically penetrates through the second cylinder, the intermediate partition plate and the first cylinder.